

REMARKS

Consideration of the following remarks and reconsideration and withdrawal of the rejections contained in the Office Action dated July 10, 2008 are earnestly solicited.

The present invention relates to the preparation of cellulose ethers from high bulk density raw cotton linters, as opposed to purified cotton linters, or cellulose from other sources. These short fiber length materials have unexpectedly high bulk density. Such materials provide a unique composition that are especially well suited for the commercial manufacture of premium quality cellulose ether derivatives by using either slurry or high solids processes thereby resulting in an increased utilization of plant assets without additional investment.

Additionally, the present invention eliminates costly purification of raw cotton linters. An additional surprising benefit of the present invention is that it can provide unique composition comprised of high molecular weight cellulose materials suitable as feedstock for the production of cellulose derivatives.

Claim Rejections – 35 USC § 103

In paragraph 4 of the Office Action, claims 41-46, 48, 49, 51, 56, 57, 63-66 and 94-103 were rejected under 35 USC § 103(a) as being unpatentable over by Henry et al. (US Patent No. 3,085,087) in view of Dearborn (US Patent No. 3,375,245) for reasons disclosed on pages 2-4 of the Office Action filed October 3, 2007.

The Office Action found applicants' previous arguments filed on April 3, 2008 not to be persuasive. In particular, the Office Action takes the position that the secondary reference (Dearborn) used in the rejection of the instant claims, shows that the density value of cotton linter recited in the instant claims is known in the art.

Applicants respectfully assert that the rejection of claims 41-46, 48, 49, 51, 56, 57, 63-66, 94-96 and 98-103 as being unpatentable over Henry in view of Dearborn is traversed for the reason that the combination of Henry with Dearborn would not result in applicants' invention, as claimed.

As previously stated by applicants in their traversal the rejection of claims 41-46, 48, 49, 51, 56, 57, 63-66 and 94-103 as being anticipated by Henry presented in their previous responses, Henry never discloses or teaches the preparation of cellulose ethers from high bulk density raw cotton linters, as claimed by applicants. Henry is directed to an improved liquid medium for use in the production of cellulose ethers. However, when Henry discusses the types of cellulose used in producing cellulose ethers, the cellulose is described as

"...chemically purified cotton linters, wood pulp and various other cellulosic materials are satisfactory of use in the process...the preferred ones are purified cotton linters and α -cellulose wood pulp." (Column 6, lines 17-20.) Henry makes no mention of the use of raw cotton linters in general or the raw cotton linter fibers that a bulk density of at least 20 g/100 ml in particular, as taught and claimed by Applicants.

US Patent No. 3,375,245 to Dearborn is directed to "[A] method of making sodium carboxymethyl cellulose from regenerated cellulose in which comminuted regenerated cellulose is mixed with aqueous solutions of chloracetic acid and sodium hydroxide to form a reaction mixture." (Column 1, lines 11-15.) (Emphasis added.)

Applicants respectfully submit that Dearborn does not teach or suggest to a person of ordinary skill in the art to use raw cotton linters as the starting material of the claimed process. In fact, in Table 1, Dearborn is clearly directed to the use of scrap cellophane as a starting material for the production of carboxymethyl cellulose. Since the regenerated cellulose of Dearborn is "...limited to cellulose which has been previously treated to produce cellulose xanthate and dissolved in dilute caustic to produce viscose rayon and/or cellophane" (Column 2, lines 57-61), there would be no teaching or suggestion to a person of ordinary skill in the art to use a raw cotton linters as the starting material for the production of cellulose ether derivative products. In fact, applicants respectfully submit that a person of ordinary skill in the art would view the teachings of Dearborn as teaching away from the use of raw cotton linters, as claimed by applicants, since viscose rayon and/or cellophane are more highly processed and purified materials than even "chemical pulps" or purified cotton linters typically used to produce cellulose ether derivative products.

In the previous Office Action, it was stated that the "...bulk density of 9.1 lbs./cu. ft. is greater than a bulk density of 8 g/100 ml...." Applicants have converted the 9.1 of lbs./cu. ft to the units of g/100 ml as recited in the instant claims as follows:

$$(9.1 \text{ lb/cu. ft.})(1 \text{ cu. ft.}/28316.85 \text{ ml})(453.59 \text{ g/lb})(100) = \underline{14.58 \text{ g/100ml}}$$

In the present response, applicants have amended claim 41 with the bulk density value contained in previously presented claim 97 so that the currently amended claim 41 clearly recites a bulk density of the loose mass of comminuted raw cotton linter fibers used in the process to produce the cellulose ether derivative product being at least 20 g/100 ml. This value is significantly higher than the value 14.58 g/100ml value recited by Dearborn for cotton linters in Table 1.

Applicants respectfully submit that Dearborn contains no teaching or suggestion to the person of ordinary skill in the art to substitute the high bulk density raw cotton linters as disclosed by applicants for the cellophane or viscose rayon starting materials taught as useful in its process. In fact, applicants respectfully submit that the teachings of Dearborn actually teach away from the use of high bulk density raw cotton linters, since raw cotton

linters would necessarily contain extraneous chemicals rather than the more highly processed viscose rayon and/or cellophane which are even more highly processed materials than even "chemical pulps" or purified cotton linters typically used to produce cellulose ether derivative products.

Additionally, applicants respectfully submit that Dearborn only discloses cotton linters having a bulk density of 14.58 g/100ml (9.1 lb./cu. ft.) which is significantly below the 20 g/100ml recited in applicants' claims, therefore applicants respectfully assert that the Dearborn patent clearly does not show the density value of cotton linter recited in the instant claims is known in the art.

Additionally, applicants respectfully submit that while the title of Dearborn is "Method of Making Sodium Carboxy-Methyl Cellulose", its teachings do not embrace the process set forth in the instant claims since Dearborn's teachings are clearly directed to the use of scrap cellophane materials which are non-fibrous in nature rather than employing wood pulp or cotton linters and even more highly processed materials than even "chemical pulps" or purified cotton linters typically used to produce cellulose ether derivative products. Also, it is clear from Table 1 of Dearborn, that when in a comparative example, cotton linters are used as a source of cellulosic material for the production of sodium carboxy-methyl cellulose, the bulk density of this material is only 9.1 lb/cu.ft., (14.58 g/100 ml.).

Applicants respectfully assert that the rejection of claims 41-46, 48, 49, 51, 56, 57, 63-66, 94-96 and 98-103 as being unpatentable over Henry in view of Dearborn is traversed. Applicants respectfully request withdrawal of the rejection of claims 41-46, 48, 49, 51, 56, 57, 63-66, 94-96 and 98-103 under 35 U.S.C. §103(a) and request the allowance of these claims.

In paragraph 6 of the Office Action, claim 47 is rejected under 35 USC § 103(a) as being unpatentable over by Henry et al. patent in view of Dearborn patent as applied to Claims 41-46, 48, 49, 51, 56, 57, 63-66 and 94-96 further in view of Savage (US Patent No. 2,949,452) for the reasons disclosed on pages 4 and 5 of the Office Action filed October 3, 2007.

Applicants respectfully submit that Savage does not provide the necessary teaching or suggestion lacking in Henry et al. patent in view of Dearborn patent as discussed hereinabove in the traversal of the rejection of claims 41-46, 48, 49, 51, 56, 57, 63-66, 94-96 and 98-103. Applicants respectfully request withdrawal of the rejection of claim 47 under 35 U.S.C. §103(a) and request the allowance of this claim.

In paragraph 8 of the Office Action, claims 58-62 are rejected under 35 USC § 103(a) as being unpatentable over by Henry et al. patent in view of Dearborn patent as applied to Claims 41-46, 48, 49, 51, 56, 57, 63-66 and 94-96 further in view of Newbury et al. (US

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Patent No. 6,069,355) for the reasons disclosed on pages 5 and 6 of the Office Action filed October 3, 2007.

Applicants respectfully submit that Newbury does not provide the necessary teaching or suggestion lacking in Henry et al. patent in view of Dearborn patent as discussed hereinabove in the traversal of the rejection of claims 41-46, 48, 49, 51, 56, 57, 63-66, 94-96 and 98-103. Applicants respectfully request withdrawal of the rejection of claims 58-62 under 35 U.S.C. §103(a) and request the allowance of these claims.

Amendment to Claims

Applicants have amended claim 41 to recite the bulk density of the loose mass of comminuted raw cotton linter fibers used in the process to produce the cellulose ether derivative product. The bulk density of at least 20 g/100 ml was found in previously presented claim 97, now cancelled and was originally found in claims 6-9 as originally presented, now withdrawn, as well as paragraph [0052] of US 2005/0228174 A1.

As required in paragraph 10, applicants have cancelled claims 1-40, 50, 52-55 and 67-93 drawn to and invention nonelected with traverse.

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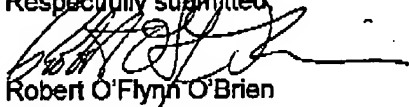
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CONCLUSION

In view of the reasons set forth above, Applicants respectfully request withdrawal of the above-mentioned rejections of record, and the allowance of all pending claims, and the holding of this application in condition for allowance. If any points remain of issue that may best be resolved through a personal or telephonic interview, the Examiner is respectfully requested to contact the undersigned at the below-listed telephone number.

Except as otherwise stated in the above-noted remarks, Applicants notes that each of the amendments have been made to place the claims in better form for U.S. practice, not to distinguish the claims from prior art references, otherwise narrow the scope of the previously pending claims or comply with the other statutory requirements.

Respectfully submitted,


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